

OKLAHOMA
AGRICULTURAL AND MECHANICAL
COLLEGE

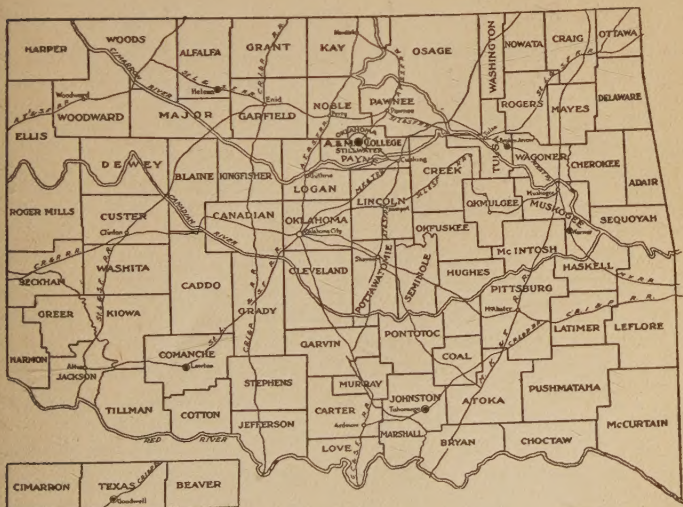
AGRICULTURAL EXPERIMENT STATION

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FORAGE AND SILAGE CROPS FOR OKLAHOMA

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DEPARTMENT OF AGRONOMY



LOCATION OF A. & M. COLLEGE AND SIX SECONDARY AGRICULTURAL SCHOOLS

STILLWATER, OKLAHOMA

FORAGE AND SILAGE CROPS FOR OKLAHOMA

BY O. O. CHURCHILL, *Agronomist*

This bulletin is intended to present brief and concise information concerning the forage and silage crops for Oklahoma. Several minor and unimportant crops will be discussed in order to answer more completely the many inquiries which are being received. The notes given under each heading will indicate the value of the different crops so far as experimental work at this Station will warrant drawing conclusions.

Several of the leading forage crops are treated in separate bulletins of this Station. It is not intended to duplicate such information at this time as copies of any or all of these bulletins may be obtained free of charge. Write the Station, mentioning the subjects concerning which information is desired.

The subjects treated in the following pages are:

1. Grasses.
2. Legumes.
3. Coarse Forage.
4. Soiling.
5. Continuous Pastures From Annual Crops.
6. Crops for the Silo.

Experiments have been conducted with different grasses and forage crops almost from the time the Station work was organized, twenty years ago. During some portion of this period practically all of the common grasses and legumes grown for forage purposes in this and other countries have been tested.

We have also the accumulated experiences of many farmers in all parts of the State. We may safely conclude from the extensive information at hand that there are but few forage crops worthy of extensive culture in Oklahoma. At rare intervals there may be a valuable crop introduced by the Department of Agriculture or through some other agency.

It is well to keep in mind, however, that Experiment Stations test hundreds of crop varieties where a farmer tests one. Variety testing is one phase of Station work. This Station tries at all times to have positive information based on accurate tests as to the true value of newly introduced crops. It is a poor policy to buy seeds which appear under new names and at fancy prices. New crops of value are not being introduced every day nor every year. Big claims for new crops should always be viewed with suspicion.

I—GRASSES

Many people coming from other States are disappointed in the small number of grasses which may be successfully grown in Oklahoma. The native grasses are the only ones which may be grown in all parts of the State with uniform success. The shortage of grasses is, however, not a severe handicap when conditions are fairly met. The important thing is to stop trying to grow grasses which every one with experience knows will not succeed.

Bermuda

Bermuda is the one best permanent pasture grass for Oklahoma. However, it is not a success in six or seven of the northwestern counties, particularly on the uplands. It is not very successful along the northern border of the State. Bermuda does not withstand a combination of dry and cold winters very well.

When young, bermuda makes a very rich pasture. It should be grown in the great central portion of the State on soil not adapted to alfalfa. It is costly to start bermuda, but it is permanent, and it grows well on washy soil and in places where it is best to keep the land sodded down.

Bermuda is strongly recommended as a permanent pasture crop for the greater part of the State. On good soil it will produce a fair amount of hay. Bermuda is treated at some length in other bulletins of this Station.

Timothy, Orchard Grass, Red Top, Bluegrass and Fescue

These grasses cannot be entirely depended upon in any part of the State, although there have been many records of success in the northeastern part of Oklahoma and along a narrow strip on the eastern side. They grow best on the limestone soils of the northeastern corner.

Red top does best on damp soils. Orchard grass perhaps has the widest range. A few good fields of timothy as far west as Pryor in Mayes county have been observed. The area where these grasses can be grown profitably is very limited. It is doubtful if they will ever become of much importance in the part of the State indicated.

Any of these grasses may be seeded in the late winter or early spring. They are also sometimes seeded in the fall. From fifteen to thirty pounds of seed should be planted per acre, depending upon the variety and the freedom from chaff. They may be seeded with a thin nurse crop of wheat or oats. The grass seed should not be more than lightly harrowed in.

When starting, it might be well to seed a mixture in order to determine which will give the best results. It might also be well to include some of the clovers.

The grasses discussed under this heading are not highly recom-

ended for any part of the State. They are well worthy of trial in the part of Oklahoma indicated.

Brome Grass

We frequently see brome grass recommended for trial in Oklahoma. This grass grows much better 500 to 1,000 miles north of Oklahoma than it does in this State. In the Northern States it makes an excellent pasture and is also valued as a hay crop. It is very doubtful if brome grass will ever be of much value in this State.

Brome grass is of less value than bermuda where bermuda can be grown. We would not recommend it for trial except in the north-western counties where bermuda is a failure. It will probably be of but little value even there.

Those who wish to try brome grass should do so in a small way. It is best to seed it by itself. The soil should be prepared the same as for corn, except that the soil should be level when the seed is planted. The seed should be planted in the spring, using from fifteen to twenty-five pounds of seed per acre. The young plants are very weak and tender, and for that reason should not be pastured. Where the native prairie grasses are thin it might be well to scatter brome grass seed in the spring and then harrow.

We do not recommend brome grass for general culture in any part of the State, although it might be well to try a small amount in the portion indicated.

Colorado Grass

Colorado grass is an annual plant closely related to the millets. Its habit of growth is somewhat similar to that of crabgrass. It does not grow early in the spring, but comes on quite late in the season, and in many cases gives a good yield of hay or makes a fair amount of pasture.

We have had several very favorable reports of colorado grass from farmers in the western part of the State. Mr. Vining of Erick, Oklahoma, writes that it is undoubtedly the best grass for the sandy and blowy soils in his locality. It does not excel bermuda in any way on the hard uplands of the Station farm and is inferior as a pasture, though cheaper to start. Its habits of growth are very different from bermuda and it should be grown for an entirely different purpose and in a different way.

If properly handled, colorado grass will reseed itself the same as crabgrass. It will not interfere with other crops, but will come on after corn or kafir is laid by and will make a good growth. It is undoubtedly worthy of culture on the sandy soils in the western part of Oklahoma.

Twenty-five to thirty pounds of seed should be sown in the spring on well prepared ground. It scatters its seed very freely when ripe, hence does not have to be seeded every year if properly handled. There

is no danger of colorado grass becoming a troublesome weed. We recommend colorado grass for the sandy soils in the western part of the State, especially where bermuda is not much of a success.

Sudan Grass

Sudan grass is a recent importation made by the Department of Agriculture. It is an annual plant resembling johnson grass so far as the stalks and heads are concerned, but there are no underground root stocks. There is no danger of its becoming a weed. Sudan grass belongs to the sorghum family.

Sudan grass gives promise of being a good crop for all parts of Oklahoma. It will be better for a hay crop than for pasture. Under favorable conditions it will make from one to three crops each season. When seed is wanted it is safest to save the first crop for that purpose. If rains come soon after the first crop is cut it will make a quick recovery. One field near Stillwater produced a crop of seed and two fair cuttings of hay in the adverse season of 1913.

Sudan grass may be sown either in drills or broadcasted. When seeded in rows it should be cultivated the same as any sorghum. While seed is scarce and high priced this will probably be the best way to grow it, owing to the saving of seed. When planted in drills five to ten pounds of seed will be enough for one acre. If drilled thick or broadcasted it will require twenty-five to thirty pounds of seed per acre.

We recommend sudan grass for all parts of the State, especially where a hay crop is wanted. Sudan grass seeds freely and the seed should sell at a reasonable price within one or two years. In the meantime when such a crop is wanted we would recommend cane.

Curley Mesquite

Curly mesquite is one of the native grasses found in the western part of Oklahoma. When pastures are overstocked and become thin, plants of this variety increase in number. For the northwestern part of the State where bermuda is not a success, curly mesquite, so far as we know, will make one of the best permanent pasture grasses. We do not have sufficient information to warrant drawing positive conclusions concerning this grass.

Native Grasses

In all parts of the State where cultivated grasses are not very successful, more attention should be paid to the native prairie grasses. Too frequently native pastures are overstocked and their value thus greatly reduced. In some cases it will be found necessary to depend on such grasses for pasture and for hay.

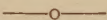
They are profitable on poor upland underlaid with hardpan. They are the only grasses which will grow well in shade. Some of the native grasses will grow on alkali spots. They cure up well

make good winter pasture. The "short grasses" should not be overlooked for the "short grass" country.

Johnson Grass

There is a law which makes it an offense to plant johnson grass to allow it to go to seed in Oklahoma. For this reason we do not commend johnson grass for any part of the State. Those living in the eastern part of the State will not question its success.

Johnson grass is far more successful for hay than as pasture. If its culture were allowed on the uplands it would soon overrun the bottom lands. Regardless of its success, we do not recommend johnson grass. It is scattered so easily by creeks and rivers that it is dangerous, no matter where planted.



II—LEGUMES

The different plants belonging to the legume family are among the most valuable forage crops. Many of the legumes make unexcelled forage and at the same time improve the physical condition of the soil. From the standpoint of keeping the soil in good condition they are the most valuable crops grown. Legumes should be grown on every farm.

Alfalfa

Wherever alfalfa can be grown it will be found to be the most valuable hay plant for Oklahoma. On the right types of soil it will succeed in all parts of the State. On rich bottom lands which do not overflow it has no equal as a forage crop.

Alfalfa is treated in several bulletins of the Station, and for that reason it is unnecessary to include a discussion here.

Cowpeas

Cowpeas have been strongly recommended for Oklahoma for forage purposes and as a crop to improve the soil. This crop will probably have an important place in the cropping systems in the future. It is somewhat costly to grow cowpeas. The forage produced is excellent. Information concerning this crop may be found in other bulletins of this Station.

Sweet Clover

At this time sweet clover is receiving a great deal of attention, not only in Oklahoma, but throughout the entire country. The scarcity of good grasses which will succeed under all conditions makes it very desirable to have some additional pasture and hay plants if possible. On poor soil and under unfavorable conditions sweet clover will

grow and produce as large a yield as any of the crops commonly grown in the State. It would not be wise to grow sweet clover on good, rich bottom land where alfalfa is a success.

Many conflicting reports have been received concerning this plant. All agree that it is a suitable crop for poor soils and adverse conditions. The disagreement comes in its feeding value. Some state that it is impossible to get stock to eat sweet clover either as pasture or when made into hay. Others claim that their animals take to sweet clover readily and that they even prefer it to many of the common forage plants.

This difference, no doubt, is real, and probably lies in the fact that sweet clover, under very dry conditions or after it becomes mature, is very woody and quite bitter. The bitterness of sweet clover is not objectionable except that it makes the plants objectionable to livestock. This suggests that the plants should be pastured while young and that they should not be allowed to become too mature before being made into hay.

The feeding value, as determined by chemical analysis is practically equal to that of alfalfa. Sweet clover is a good soil builder and equal in most ways to the legumes commonly grown. The roots of these plants are very fleshy and there is a large taproot which grows deep into the soil. The plants usually reach a height of from two to five feet. They resemble alfalfa very closely in all respects except that they have large central stems and the mature plants are very coarse and woody.

White sweet clover is the best variety for Oklahoma. It lives two years. It seeds very freely and will volunteer from year to year if not kept pastured or cut too closely. Usually it does not produce much seed the first year. The yellow sweet clover, while a very good variety, is probably somewhat inferior to white sweet clover. There is a small annual sweet clover which is sometimes used as an adulterant and is even substituted for other varieties. This variety is worthless. It is well when ordering sweet clover seed to name the variety wanted.

The preparation of the soil, the time of seeding and the rate of seeding should be about the same as that for alfalfa. Sweet clover seed is frequently sold in the hull. In this condition the rate of seeding should be changed accordingly, and the price per bushel should be reduced correspondingly.

Soil on which sweet clover is seeded should be firm, and it will do no harm to even have the soil very compact. It should never be seeded on loose, open soil or on new plowing.

Fall seeding will probably give the best results. If the seed is planted in the spring, especially on blowy soil, the time of seeding should be delayed until most of the blowing is over. On such soil early fall seeding will undoubtedly give the best results.

It may be well to give sweet clover a trial on poor unland where

most forage crops are not very successful. Sweet clover will improve the soil, it will make a good green manure crop, it is a good crop to precede alfalfa, and at the same time will be of some value for hay and pasture purposes. Sweet clover cannot be considered a dangerous weed. It is easily controlled on cultivated land.

Japan Clover

(*Lespedeza*)

Japan clover is an annual legume which grows well and produces a fair amount of hay in Louisiana and other lower Mississippi valley States. Similar conditions exist in the extreme southeastern part of Oklahoma. Outside of this small area, Japan clover grows only four to six inches high and is suitable only for pasture. It is doubtful if this crop will be of any value outside of the area mentioned.

Japan clover may be seeded either in the fall or early spring. The usual rate of seeding is from fifteen to twenty-five pounds per acre. The rate of seeding should depend upon the purpose for which it is planted. If scattered in native pastures a very small amount may prove to be profitable.

The seed is sown in both threshed and unhulled condition. In the unthreshed condition a bushel of seed weighs from fifteen to twenty-five pounds. When threshed it has the same weight as alfalfa seed—sixty pounds per bushel. Japan clover is adapted only to the very southeastern part of the State, and there only for pasture purposes. Best results will be obtained if seeded among other grasses and legumes. It is easily killed out, but will volunteer quite freely if not pastured too closely. We do not recommend Japan clover very highly, but it is worthy of trial in Bermuda sod and in native pastures in the part of the State indicated.

Burr Clover

Burr clover has about the same range in Oklahoma as has Japan clover. It should be used in the same way. It should not be highly recommended.

Medium Red, Mammoth, Alsike and White Clovers

All of these clovers have little value in Oklahoma. In some seasons they have been grown with a fair degree of success in the same section as indicated for timothy. In trying to grow them outside of this small area one is only inviting failure. Other crops will probably prove to have as great, if not greater, value even in that part of the State.

These clovers may be worthy of trial, but we do not recommend them for general culture. Medium red and mammoth clovers should be seeded at the rate of twelve to fifteen pounds per acre, alsike at the rate of six to eight pounds and white clover at the rate of four to

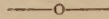
six pounds per acre. When starting it will be best to seed these crops in a mixture with some of the grasses.

Vetches

There are several varieties of vetch. Only one, the winter, hairy or sand vetch, has been widely recommended. This crop has not done very well in any part of the State, yet it has done well enough to persist to some extent from year to year. It makes a fair growth and will make a fair amount of hay. Hairy vetch is usually seeded in the early fall, about the first of September.

Vetches are usually grown in mixtures with grain. When planted alone one to one and a half bushels of seed should be used per acre. When planted in mixtures smaller amounts may be used.

Cowpeas, peanuts, alfalfa and the canes give better results than any of the vetches and are to be preferred in all cases. These crops should be given preference to vetches in all parts of the State.



III—COARSE FORAGE

The coarse or large forage plants are all annual crops. They are discussed under a separate heading since most of them are grown and harvested differently from the common hay plants. Under dry and adverse conditions they are of great value, but are of little importance where the commonly cultivated grasses and legumes are grown successfully.

While the coarse forage crops give large yields per acre, the cost of production is higher than that for alfalfa and many of the hay crops. They are, however, sure crops and should have an important place, especially in the drier parts of Oklahoma.

The crops to be discussed under this heading are cane, the grain sorghums, corn, millets, pear millet, teosinte and rape.

Grain Sorghums

Kafir, milo and feterita are treated in other bulletins, but they are too important to omit. While the grain sorghums are generally grown for the grain, the forage constitutes a valuable part of the crop. Kafir makes better forage than the duras. Grain sorghums when grown for forage should be given the same culture as when grown for grain production. The time of cutting may vary. The feeding value of the forage decreases from the time the heads are formed until mature. If forage is the primary purpose of production it is wise to plant thicker than for grain as the yield will be greater. Grain sorghums will produce a large amount of very valuable forage, and these crops should not be overlooked when such a crop is wanted.

Canes

The canes are frequently grown for hay and forage purposes. They make large yields of very good feed. While canes are sometimes poisonous when pastured, there is no danger in feeding the canes after they are dry and cured.

The cane crop may be grown in rows and cultivated, or it may be seeded thickly, either broadcasting or drilling. If the crop is to be harvested with a corn harvester it will be better to have the crop planted in rows. The yield in most cases will be larger when seeded thickly.

Cane hay makes an excellent feed. On poor, thin upland there is a crop which will make as large a yield. This crop should be highly recommended where feed is short.

The sumac and orange varieties are both good. The "Texas ribbon cane" is a large, late maturing variety. It makes a good late crop for the silo, but is no better for forage than the first named variety. Amber cane is an early variety, but is no better in any way than the varieties previously mentioned.

Corn

When the crop is grown for forage, corn is inferior to the grain and sweet sorghums. The sorghums will give larger yields under the conditions where we recommend these crops. The forage is also superior to that of corn. Sorghums are therefore to be preferred when forage production is the primary aim.

Teosinte

Teosinte is another forage crop which has been frequently recommended for this State. In tests at this Station it has never given as good results as corn or any of the sorghums. Teosinte is closely related to corn. It may be a good crop in the extreme southern part of the United States, but it is of little value in Oklahoma. In value teosinte falls to about the bottom of the list of forage crops. We do not recommend it for any part of the State.

Pearl Millet

Pearl millet belongs to the sorghum family. It is in no way superior to the canes for either forage or grain production. In our tests the canes have given much larger yields and the feed produced is better. We do not recommend this crop for Oklahoma.

Milletts

The millets are not generally grown in any part of Oklahoma. Sometimes, however, quite large areas are grown to meet local conditions, and in some localities they are grown for seed production. This class of crops are usually grown for feed when other forage crops have, for some reason, failed. The short period required for maturity makes them quite desirable for this purpose.

The foxtail varieties are the ones usually grown. The German and Hungarian varieties are the most popular varieties, although the Siberian is also grown to some extent. The broomcorn millets are grown for seed production and are of little value for forage purposes.

Millets should not be seeded until the ground is thoroughly warm. Two pecks per acre is the usual rate of seeding. The ground should be prepared the same as for corn, but the culture should always be level. Millets are most productive on good, rich bottom land and are of little value on dry and poor upland.

Drilling will give best results. Seeding may be done any time in May, June or July. Late plantings seldom give good yields since conditions are usually unfavorable.

On good types of soil and under average conditions millets should average one and one-half tons of hay or fifteen bushels of seed per acre. It will be found necessary to cure millet hay thoroughly before stacking or putting in the mow.

Millet hay if fed exclusively to horses is reported to have an injurious effect in many cases. It makes a good feed if fed only once or twice daily and other roughage is fed at the other times. Its effect is worse if seed is allowed to form before cutting.

Millets are not good crops for general culture, but they may well have a place on many farms. They make a good crop in the rotation leaving the soil in good condition. It is very doubtful if millets will prove to be a better crop than canes under any condition.

Rape

Rape does best on very rich bottom soils. It is more productive in cool climates than where the summers are hot and dry. Marshy soils or soils well filled with vegetable matter are ideal.

If rape is to be grown in Oklahoma it should be sown early. It may be seeded either by itself or in a mixture. When seeded by itself it is sometimes planted in rows and cultivated, and at other times is broadcasted. If planted in rows, two pounds of seed to the acre is enough. Four or five pounds of seed should be used when broadcasted.

Rape is best for sheep and hog pasture. There is danger of bloat with sheep or cattle when pastured on rape. Rape will never be an important crop in Oklahoma, but it might well be used in mixture for early spring pasture when an annual pasture is wanted. It will be of little value on dry and poor upland.



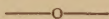
IV—SOILING

Soiling is sometimes practiced on high priced land and when pastures are short. Soiling consists of cutting green fodder from day to day and feeding it in yards. The coarse or large forage crops are

own for this purpose. While there is probably more feed produced per acre than when the same crops are pastured, this practice is very expensive due to the large amount of labor required.

The practice of soiling is now being quite generally replaced by the use of silage. Summer feeding from silos is undoubtedly profitable on all heavily stocked farms, especially if the stock consists largely of cattle. When summer feeding from the silo is practiced it will pay to have two medium sized silos rather than one large one.

It is very doubtful if soiling will prove profitable in Oklahoma except under very unusual conditions. We recommend the silo in preference to soiling.



V—CONTINUOUS PASTURES

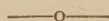
It is generally conceded that livestock can be more profitably produced on pasture than by any other system of feeding. Pasturing largely eliminates the problem of labor. Good pastures are then very important.

Even when permanent pastures are not very successful it is possible to have good pasture during the entire growing period. The following plan to provide continuous pastures with annual crops is recommended, especially for hogs:

Provide three or four small fields or paddocks. Seed two or three of the paddocks to winter wheat or rye early in the fall. These crops will make the best winter and early spring pasture. As early as possible in the spring seed one paddock to oats or a mixture of crops to provide pasture when the winter wheat and rye plays out. Seed the remaining paddock to cane, millet, rape or some mixture of crops recommended in this bulletin.

When the winter wheat pasture plays out, disk the land, prepare it all and seed to cowpeas, sorghum or peanuts. Let these crops mature and hog them down in the fall. As each paddock plays out, prepare and seed to some crop which will stand dry weather and which will make good late pasture. For this purpose canes and cowpeas are best.

It will be well also to have a permanent grass field in which to turn the animals when the fields are muddy or in poor condition. Good pastures may be had if this or some other system is followed. Permanent pastures will be cheaper, but if they are difficult to establish continuous pastures with annual crops may well be provided.



VI—CROPS FOR THE SILO

A great many different crops have been recommended for the silo. Usually the best crop will be the one which gives the largest yield per acre. If this is admitted, then crops which are to be used for this pur-

pose should be limited to corn, canes and the grain sorghums. There is such a small difference in the feeding value of silage made from these crops that yield should be the deciding factor.

Grain Crops

The best quality of silage can never be made from plants having a hollow stem. Grains are, therefore, not good for this purpose. The yield also is too small to permit of their use profitably. The use of grains for silage purposes should be condemned.

Peanuts

Pound for pound, peanut silage is better than corn or sorghum silage, but the yield per acre makes peanuts an unprofitable crop for this purpose. Silage made from peanuts will not keep as well as that made from corn or the sorghums. This crop might better be utilized in some other way and larger yielding crops grown for the silo.

Alfalfa

When rains come at the time it is desired to make alfalfa hay, many people consider the advisability of putting the crop in the silo. Alfalfa does not make good silage. If the crop can be saved in any other way it will be better than to make it into silage. For feeding on the farm, alfalfa hay damaged by the weather will make as good feed as alfalfa silage.

Cowpeas

The remarks made in regard to peanuts and alfalfa will apply to cowpeas as well. However, it is not a bad practice to have some cowpeas mixed and cut in the silage along with corn or the sorghums.

The practice of planting these crops together is not very successful and is not recommended. The mixture improves the quality of the feed if used as a pasture. But very seldom will it pay to plant a mixture for the silo or for grain production.

Corn

On the rich bottom land in the eastern half of the State corn is the best crop for the silo. On poor upland, underlaid with a hardpan, corn should not be planted for any purpose. Under such conditions corn cannot be depended upon.

A half grown crop of corn does not make the best silage, and while such material may be saved in the silo, the sorghums will be far better. In all cases the more grain present the higher the feeding value will be.

Corn should be limited to the same areas for silage production as for grain purposes. It does not pay to grow corn on the poor land even for silage production.

When corn is grown for the silo it should be tilled and handled in the same way as when grown for grain production. Some people advise thick planting when the crop is to be used for silage, since under any conditions the thick planting will give larger yields. As stated previously, the feeding value of the silage will depend to a large extent on the amount of grain present. For that reason we would advise against thick planting for silage production.

In many parts of the State the limiting factor is water. When this is the case it will seldom pay to plant corn any thicker for silage production than for grain production. Crops frequently dry up and die owing to the exhaustion of water. The heavier the tonnage produced the quicker the water is reduced to the point where it cannot support plant life.

The best silage will be produced from corn when it is cut at the time the kernels are glazing. This will be before the leaves dry up and any portion of the plant is dead. It does not pay to leave the corn too long, but at the same time better silage will be produced if the ears are allowed to become well formed and almost matured before cutting than if harvested earlier.

Cane

Cane will usually give the highest yield of green material for the silo. It is an especially valuable crop for late planting when the silo is to be filled twice during the season.

The quality of the silage produced from cane seems to be entirely satisfactory. Some state that such silage is too acid for the best results, but this is not a general complaint. It is used for this purpose by many farmers in Oklahoma. One valuable characteristic of cane and grain sorghums for silage purposes is that they remain green even after maturity. This keeps the plants in the best condition to be put into the silo. It makes a longer period for harvesting, for there is little danger of the plants burning up quickly.

Texas ribbon cane is one of the largest, latest varieties and is a very heavy yielder. It is a good late crop. Either sumac or orange will prove to be satisfactory for silage purposes, as well as for other uses in this State.

Grain Sorghums

Kafir makes the best forage and will no doubt make the best silage of any of the grain sorghums. It should be grown and handled exactly the same way for silage production as for grain production. The silage produced from kafir is just as satisfactory as that produced from corn. The grain should be allowed to mature before putting the crop into the silo. In the western part of the State and on poor upland in the central part of the State, grain sorghums will yield more heavily than corn. The yield, however, will probably be somewhat lighter than that of cane.

